

REMARKS AND ARGUMENTS

Claims 1-18 are pending in the present application, of which claims 1, 9 and 17 are independent. Claims 1-7 and 9-10 have been amended. New claims 11-18 have been added; support for the limitations of these claims is found at page 3, lines 21-30; page 4, lines 1-4 and 10-14; and page 5, lines 1-9. Applicant files herewith the Declaration of Dr. Thomas R. Tepe.

Claims 1-3 and 9 were objected to on the ground that they did not recite that the stated percentages are weight percentages, and claim 3 on the ground that "a clay" should read "the clay." The claims have been amended to incorporate the changes suggested by the Examiner.

Claims 1-10 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite on several grounds. First, the percentage monomer recited in claims 1, 4-6 and 10 was not stated as being a weight percent; this has been corrected in accordance with the statement on page 2 that all percentages are by weight. Second, the term "in a colloidal range" in claim 7 was objected to. This has been replaced with the range "from 1 to 1000 nm," in accordance with the definition of "colloid" from the McGraw-Hill Dictionary of Chemistry (copy enclosed). Third, the word "said" has been removed from claim 9 to provide antecedent basis. Finally, the term "low-shear" in claim 9 has been removed.

Claims 1-10 were rejected under 35 U.S.C. § 103 over Laryea et al. in view of Merritt et al. and either Gardlik et al. or Dowell et al. Applicant respectfully traverses this rejection.

As acknowledged in the Office Action, Laryea et al. does not teach surfactant levels as high as currently claimed, and also does not teach the claimed copolymer composition. Laryea et al. discloses a composition containing Aculyne™ 28 copolymer and 14.6% surfactant. Applicant has prepared a composition based on Aculyne 28 copolymer, and having a surfactant level of 22.3%, as described in the Declaration of Dr. Tepe, paragraph 4. As described in detail therein, Aculyne 28 does not provide the desired increase in viscosity in a high-surfactant formulation, such as that claimed by Applicant, but several copolymers having compositions within Applicant's claimed ranges do provide a substantial viscosity increase at high surfactant level. Since Laryea et al. does not provide any guidance regarding copolymer compositions that are effective at high surfactant levels, and does not suggest the presently claimed composition, Laryea et al. cannot render the present invention obvious.

The other references do not remedy the deficiency of Laryea et al. Although Merritt et al. discloses a polymer to be used for a similar purpose, only very general information is provided as to composition. The polymer cited in the Office Action as

having 15-60% acrylic acid (Merritt, Col. 8-9) in fact is disclosed as having "15-60% of at least one C₃-C₈ alpha-beta-monoethylenically unsaturated monocarboxylic acid." While a few examples of such acids are provided, and these do include acrylic acid, methacrylic acid is stated to be the most preferred acid. The effect of this disclosure is to point one skilled in the art away from selecting acrylic acid as a necessary component of the polymer. Moreover, there is no disclosure in Merritt that a C₂-C₄ alkyl (meth)acrylate must be present in combination with acrylic acid.

In contrast, the present claims require that the copolymer contain specified levels of acrylic acid residues and of C₂-C₄ alkyl (meth)acrylate residues. The cited art does not suggest the desirability of this combination. Moreover, polymers having this claimed combination have been shown to exhibit superior properties compared to other polymers (see Tables 1 & 2, and discussion pp. 11-12). This could not have been predicted from the disclosure of the cited references. Therefore, the references cannot render the present invention obvious, and the rejection should be withdrawn.

If the Examiner has any further objections to the application, Applicant respectfully requests that the Examiner contact Applicant's undersigned attorney by telephone at (847) 649-3891 to discuss the remaining issues.

Respectfully submitted,



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